Does the Effectiveness of Fiscal Stimulus Depend on Economic Context?

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The topic of this session of the INET conference is a question: does the effectiveness of fiscal policy in stabilizing an economy depend on the underlying economic context in which the policy is implemented? The answer to such a broad question must certainly be yes, but I argue here that the answer differs across dimensions of "context."

I explore three such dimensions. First, I consider in some detail the most obvious context: the state of actual economic activity relative to some measure of the economy's potential. I discuss logic and evidence, including some new empirical research supported by INET that implies the presence or absence of idle resources is the key context for fiscal policy. Second, I explore whether the openness of the economy matters, especially the extent to which fiscal stimulus flows abroad by boosting imports or is financed by borrowing from abroad. While this dimension will likely affect the quantitative "bang for the buck" that a country gets from fiscal expansion, I conclude that the open-economy context is unlikely to much affect the decision of a country that borrows in its own currency to undertake fiscal stimulus. Third, I look at whether the level of government debt, what might be called the "debt overhang" matters for the decision to undertake fiscal stimulus. While I accept that government debt can, in principle, be excessive, I discuss why concerns about the level of debt developed, sovereign-currency countries have in the current circumstances are likely exaggerate.

At the outset, I note that the discussion that follows is largely based on my experience in analyzing fiscal issues for the U.S. economy. As such, aside from political incompetence of the kind demonstrated by the U.S. Congress in debate over raising the

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legal debt limit in the summer of 2011, default on a sovereign debt obligation is not a concern. Why would a government default on a debt when it has the means to discharge that debt by simply creating the means of payment?[2] Creation of money to pay debt may have other undesirable consequences, but default should not ever occur for a government that borrows in its own sovereign currency. This U.S.-based analysis extends to other countries with similar fiscal and monetary circumstances. It does not apply, however, to countries that borrow foreign exchange or to countries that must maintain a fixed exchange rate, which takes its most extreme form for countries that are part of a currency union. Thus, the substantial recent difficulties of Greece, Spain, Portugal, Ireland, and Italy are outside the context of what follows. While this limits the relevance of the discussion to some extent, the issues addressed here are of fundamental importance, and seem badly understood in much of the current discussion by journalists and policy analysts. Furthermore, I argue that to develop an effective institutional framework for a currency union like the one based on the Euro, the designers must begin from the principles analyzed here.

1. The Idle Resources Context

The most obvious context of significance for the macroeconomic effects of fiscal policy is the amount of slack in the economy. If government spending rises in an economy with no slack productive resources, this spending must necessarily crowd out other output. Tax cuts might encourage more consumption or higher investment spending, but without resources available to increase total production, any new demand induced by the tax cuts will crowd out other activities. This is the world of classical economic theory. The most obvious market channel through which fiscal expansion crowds out other activities operates through higher interest rates that choke off any excess demand. The loanable funds theory of interest rates prevails.[3]

If the economy has slack productive capacity, however, the most obvious effect of fiscal expansion is higher production and employment as firms produce more to meet the

[2] In the U.S., legal restrictions prevent the monetary authority, the Federal Reserve, from directly purchasing U.S. debt from the Treasury, the fiscal authority. But this legal restriction can be, and is, circumvented by modern market practices. It is certainly not an economic constraint. See Wray (2011) for further discussion.

[3] In some new classical models of fiscal policy the crowding out is not one-for-one. One reason could be wealth effects: higher government spending forces higher expected taxes, lowering household wealth and encouraging more work effort that raises potential output.

rise in demand. The effect is direct: more sales lead to more production. Prices may rise, depending on the optimal response of firms to the shift in demand, but firms may well not raise prices.[4] More important for the purposes of this paper, there is no need for interest rates to rise as loanable funds equilibrium is established by endogenous increases in saving rather than higher interest rates. The intuition behind this result is that the multiplier process continues to operate until the sum of three variables increases to match the size of any fiscal injection: (1) domestic saving induced by higher income, (2) imports, and therefore foreign saving, induced by higher spending, and (3) tax revenue induced by higher income. Any initial deficit created by fiscal stimulus will therefore be offset directly by somewhat higher tax revenue and what remains of the deficit will be matched by higher saving. There is no upward pressure on interest rates.[5]

This result is basic and should be uncontroversial: if there are Keynesian demand effects of fiscal stimulus and the stimulus is not so large as to push the economy up against resource bottlenecks, there is no loanable funds pressure on interest rates. Yet, many policymakers, journalists, and even economists seem to fear that large fiscal deficits of recent years will push up interest rates in spite of the extreme economic slack that emerged in the wake of the Great Recession. But interest rates did not rise, indeed they fell to historic lows. The link between deficits and interest rates is therefore one part of the macroeconomic impact of fiscal policy that depends fundamentally on context: with substantial economic slack, interest rates do not rise when expansionary fiscal policy increases government deficits. Yes, the demand for funds goes up, but the income and import expansion that results from the Keynesian effects of the stimulus endogenously raises the supply of funds by an equivalent amount.

One might reasonably ask if this result depends on monetary policy and whether it will accommodate the fiscal expansion. In a sense, the answer is yes, but this answer is nuanced and requires some explanation. When the economy operates with slack, interest rates are not determined by the supply and demand for the flow of loanable funds. Instead, interest rates and other asset prices are determined by the supply and demand for the stocks of assets; this is liquidity preference theory generalized to a multiple asset world. Monetary policy is a key player in these markets, and it has the power to raise or lower interest rates independently of the state of fiscal policy. Monetary policy *could*

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[4] Fazzari, Ferri, and Greenberg (1998) argue that a model with monopolistically competitive firms with constant marginal costs and a constant markup of price over marginal cost is a realistic approximation to realistic aggregate conditions. In this model, firms will not choose to increase prices when demand rises unless money wages increase. Especially in recent years, wage increases relative to expected inflation are unlikely unless the economy operates at or close to full employment.

[5] See Fazzari (1995 and 2009) for more detailed discussion about the operation of loanable funds markets in a Keynesian context.

offset the demand effects of fiscal policy by raising interest rates, but it need not do so. Indeed, it usually *does not* do so for obvious reasons: macroeconomic conditions that call forth the need for fiscal expansion usually result in expansionary monetary policy as well. The prevailing wisdom of what came to be called "new consensus" macroeconomics in recent years held that monetary policy should be the first line of defense against insufficient demand and economic slack. Therefore, as a practical matter, any fiscal expansion in developed countries to address unemployment usually took place in a context of accommodative monetary policy. But as a theoretical matter a neutral monetary policy in the sense of a constant interest rate target will mean that fiscal expansion raises nor lowers interest rates unless the economy is pushing up against resource constraints.[6]

This logic also implies that the absence of interest rate increases from fiscal expansion does not require nominal interest rates pinned at the zero bound. One could argue that if interest rates are not at the zero bound, monetary policy is the preferred tool to raise demand in the face of economic slack, rather than expansionary fiscal policy. But as a matter of theory, there is no need for fiscal expansion to raise interest rates even if monetary policy targets a positive nominal rate, as long as the economy has slack productive capacity.

Of course, the perspective that expansionary fiscal policy is effective when the economy has idle resources is highly controversial. Many prominent economists and influential policymakers do not accept this result and this contrary position has become manifest recently in calls for fiscal austerity when it is abundantly clear that economies have substantial economic slack. What kind of evidence can we muster to support this key contextual result? The size of the fiscal multiplier has been the study of voluminous empirical work. Results are mixed, with multipliers ranging between slightly negative and huge values around 4. Balanced surveys of this literature, however, suggest that the best evidence centers on values of about 1.5 (see Ramey, 2011, for a recent and insightful example). A value of this size conforms with strong Keynesian results, and the likelihood that the benefits of fiscal expansion far exceed any costs when there are slack resources (as will be discussed in the following sections). Considering the importance of this issue, the volume of research, and the obvious implication of basic theory that the size of the multiplier should depend on the state of the economy, it is somewhat

[6] In older textbook IS/LM analysis it would be usual to define "neutral" monetary policy as one that holds the money stock constant. In this case, fiscal expansion (an outward shift of the IS curve) would push up interest rates as higher income raised the demand for money holding the supply constant (a movement along an upward-sloping LM curve). But in the modern context of monetary policy that targets interest rates this channel is of little empirical relevance. Furthermore, there is a strong argument that it was never practical for the central bank to target the stock of money, because what serves as money is endogenous; see Wray (2011).

surprising that hardly any of this empirical research has explored the dependence of estimated multipliers on the context of idle resources. Parker (2011), in particular, presents a strong and coherent call for such work.

Most likely, a major reason why the study of fiscal expansion has not much explored the context of idle resources is that the econometric methods employed in past research did not have a straightforward way to estimate the nonlinear model that makes the size of the multiplier depend on the state of the economy. Recent innovations in time-series econometrics, however, have produced tractable "threshold models" in which the impulse-response functions can change as result of a time-varying threshold models. In two innovative studies, Auerbach and Gorodnichenko (2010, 2011) estimate multipliers with threshold models that change between "recession" conditions and "expansion" conditions. They find that the multiplier is indeed higher in what they define as recessions (about 2.2 versus 0.6 in expansions). Mittnik and Semmler (2011) obtain related results estimating higher multipliers in low-growth period than in high-growth periods.

In new work supported by INET, Fazzari, Morley, and Panovska (2012) estimate a time-series threshold model that provides strong support for the view that the effectiveness of fiscal stimulus depends on the amount of productive slack. We estimate impulse-response functions for an increase in government spending. The model has two regimes, defined by the level of capacity utilization relative to an estimated threshold.[7] In the "low" regime, capacity utilization is low and the economy has a greater amount of slack. In the "high" regime resource constraints are more likely to reduce the real impact of fiscal expansion. Figure 1 shows the estimated impulse-response functions in both regimes. The cumulative effect of a one-time shock to government spending implies a very substantial multiplier of about 1.8 in the low regime when the economy has a lot of slack. In the high regime the multiplier is far from negligible at about 0.8, but it is less than half the value from the low regime. The data strongly prefer a nonlinear threshold model with two regimes against the typical linear model estimated in most of the relevant literature that imposes the same impulse-response function regardless of the state of the economy.[8]

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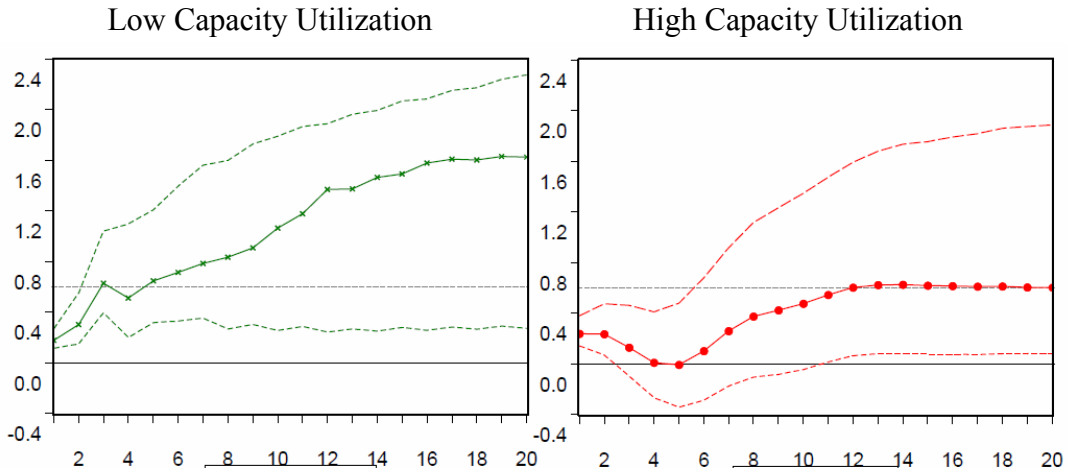
[7] We consider a variety of threshold variables and results are quite similar to the baseline results described here.

[8] The model is estimated with Bayesian methods. Results supporting the nonlinear threshold model over the linear specification hold for prior probabilities on the linear model exceeding 90 percent. The impulse-response results reported in the text assume that the economy remains within the low or high regimes for the entire simulation horizon. If we allow the threshold variable (capacity utilization) to evolve over the impulse-response simulation and average over a large number of simulated paths generated by drawing initial values and shocks from their empirically estimated distributions, the average multipliers decline marginally to about 1.6 in the low regime and 0.75 in the high regime.

Figure 1: Response of Output to 1% of GDP Shock to Government Spending



Source: Fazzari, Morley, and Panovska (2012, figure 3). The left panel shows the estimated cumulative rise in output induced by temporary government spending shock equal to 1% of GDP when the economy begins and remains in the low capacity utilization regime. The right panel is the response of output when the economy begins and remains in the high utilization regime. Vertical axis units are percent of GDP; horizontal axis units are quarters. Dotted lines are 90% credibility intervals.

Perhaps just as striking as the size difference in the multipliers, the data imply that about 60 percent of the sample observations (quarterly data from 1967 through the first quarter of 2011) fall in the "low" regime.[9] This means that the normal state of affairs for the U.S. economy over the past 45 years is one of substantial slack and high multipliers. In addition, since the multiplier is economically and statistically significant even in the high regime, I conclude that there are substantial idle resources almost always. Full employment conditions that would prevent fiscal stimulus from having a strong positive effect on economic activity seems to be a rare event, even in what was, prior to the Great Recession, a reasonably well functioning economy like the U.S.

We also studied the effect of higher government spending on other macroeconomic variables. There is no evidence whatsoever of crowding out in the low regime. Consumption responds strongly and positively to higher government spending. Investment generally rises, sometimes substantially, after a positive shock to government spending, but the credibility interval for the investment results is somewhat sensitive to the initial conditions when the shock occurs and the particular history of shocks assumed in the simulations. The investment response in the low regime is strongly positive when the simulations are run with recent histories of the data. In the high regime, consumption

[9] The determination of the share of observations that fall in each regime from the data distinguishes our approach from the small number of studies that also estimate state-dependent multipliers. For example, Auerbach and Gorodnichenko (2011) impose that just 20 percent of the observations fall into their "recession" regime.

also responds positively to government spending, but much less than in the low regime. There is some evidence of investment crowding out in the high regime with negative impulse-responses to a positive government spending shock.

These results strongly support the basic Keynesian interpretation of the effect of fiscal policy. The context of idle resources has important empirical effects on how fiscal policy affects key macroeconomic variables. And the results suggest that significant slack is the normal case. Under these circumstances, fiscal expansion raises output and employment. Any resulting deficits will not raise interest rates. The idle resource context matters fundamentally, but, most of the time there are idle resources.[10]

Before leaving the discussion of the state of the economy as a central context for the effect of fiscal expansion, I offer some thoughts on why the multiplier results discussed above might understate the empirical importance of fiscal policy for macroeconomic stability. The findings in Fazzari, Panovska, and Morley (2012), and the vast majority of the related literature, is based on data drawn from an era when both automatic stabilizers and discretionary polices responded rather strongly to periods of economic weakness. Deficits increased substantially in every U.S. recession, which the results above suggest had important effects on output and employment. These deficits contained the damage and reduced the sense of panic that could have led to a crisis of confidence and a much more severe collapse of demand and finance than actually occurred. Because our sample comes from a historical period when a catastrophic crisis did not occur, the estimated multiplier effects may be biased downward. One example of this phenomenon occurred in late 2008 and early 2009 when, following the failure of the Lehman Brothers investment bank, the U.S. economy plummeted at rates reminiscent of the most severe declines of the early 1930s. But as automatic fiscal stabilizers kicked in and discretionary fiscal measures were anticipated (along with a healthy dose of lender-of-last-resort intervention), the economy stabilized. Most studies of the impact of fiscal stimulus introduced during this period imply that it had standard positive effects, which were substantial. But we cannot know how bad things would have gotten if there had been no fiscal response at all, perhaps due to binding balanced budget restrictions that many politicians and some economists seem to favor.

2. The Open-Economy Context

The second dimension of context for fiscal stimulus is the fear that international financial flows will drain the punch from the basic effects of fiscal expansion discussed in section 1. Unlike the idle resource context, I argue here that open-economy

[10] In a new paper based on another research project supported by INET, Fazzari, Ferri, Greenberg, and Variato (2012) present a Keynesian growth model in which the usual state of the economy is one of idle resources, but the economy occasionally and momentarily bumps up against resource constraints.

considerations make little difference to the effectiveness of fiscal policy for large countries with sovereign currencies. I use the U.S. and the dollar in the discussion below, but the analysis applies to countries like Japan and the U.K. It *could* apply to the Eurozone as a whole, although the lack of a tight fiscal union makes things more complicated.

The most obvious difference between the effect of fiscal stimulus in closed versus open economies is the likelihood that some of the private spending induced by higher incomes flows to imports rather than domestically produced output. The channel reduces the multiplier and therefore lowers the "bang for the buck" from fiscal stimulus.

The salient question in this context is whether the import leakage would flip the social cost-benefit calculation for a given stimulus action from favorable to unfavorable. I consider this outcome highly unlikely because even with import leakages the multiplier in periods with significant economic slack is high. Import leakages undoubtedly reduced the multiplier for the U.S. over the estimation sample period discussed in the previous section, yet the multiplier remains large. The "bang for the buck," even in the open economy, is substantial.

If some stimulus leaks abroad into imports and exports are unchanged, international debt will rise. In the U.S., this worry reaches its highest volume when the issue is whether China's massive purchases of government debt will compromise the future economic security of American citizens. The conclusion often drawn is that we "can't afford" stimulus. I disagree. Consider the most extreme case when *all* of the government deficit created by fiscal stimulus is financed from abroad. Suppose that the multiplier is 1.8, as discussed previously. Then a dollar of government stimulus creates 1.8 dollars of new domestic income, which generates new tax revenue. An estimate of this new revenue is 37% of the rise of income.[11] If this is the case, a dollar of stimulus increases tax revenue by 37% times 1.8, or 67% of the stimulus spending. Thus, the net cost of a dollar of stimulus is just 33 cents in new foreign debt, with the extreme

[11] This calculation updates the figures reported by Cynamon and Fazzari (forthcoming 2012, chapter 11) who discuss this approach in somewhat more detail. The 37% figure is the change in total government revenue divided by the change in national income, averaged over three expansions: 1991:3-2001:2 (36%), 2003:1-2008:1 (40%), and the partial expansion from 2009:1 through 2011:3 (35%). The revenue expansion includes state and local governments, which is appropriate considering the substantial transfers to state government units from the federal government. If one includes federal revenues only, the average increase over the same three expansions is 26%. In Fazzari, Morley, and Panovska (2012), we estimate the effect of a government spending shock on tax revenues. The point estimate in the low utilization regime implies an even larger increase in tax revenues following a government spending shock, but the confidence intervals for this estimate are quite wide. Also note that effective stimulus will reduce spending on safety net programs like unemployment insurance and health care costs for the unemployed, which makes the trade off discussed in the text even more favorable.

assumption that all of the new borrowing comes from abroad. Assuming the discount rate on foreign borrowing equals the interest rate, the present value of the cost of this debt is 33 cents compared with a benefit of new production of 1.8 dollars: a benefit-cost ratio exceeding 5!

What about the fear that foreigners will decide at some point to divest their dollar debt? If they traded their debt for domestic production, domestic exports would rise, an outcome that seems desirable for any country in today's environment. If foreigners sold dollar debt for securities denominated in other currencies, the value of the dollar would fall, also stimulating exports and reducing imports. This outcome implies that Americans have less command over world production, but it also stimulates domestic demand. In the context of the results discussed above that imply that the U.S. is operating with significant slack most of the time, a rise in demand is likely to be welcome.

Finally, if there were some fear that U.S. debt (or Japanese debt, or British debt) were an unsound international investment, we would expect to see the fear reflected in interest rates. Instead, interest rates are at historic lows.[12] An interesting vignette proves the larger point. In the summer of 2011 the U.S. Congress became embroiled in an entirely artificial debate about raising the legal debt ceiling limit, even threatening technical default on U.S. Treasury obligations. During this period, bond prices for U.S. government securities *rose*, as investors seemed more worried about financial turmoil induced by the debate than the actual ability of the U.S. to meet its obligations.

The open economy context is unlikely to change the basic result from section 1: fiscal stimulus has substantial positive effects, that likely greatly exceed costs, in the *normal* case when the economy operates with slack resources.

3. The Context of Government Debt Overhang

Let us combine the messages of the discussion so far. Section 1 reports evidence that the government spending multiplier is consistent with the presence of substantial slack, most of the time. Even in the minority of periods when the economy operates in the "high" regime with less slack, the estimated multiplier is positive and substantial. The calculations in section 2 show that when we account for the additional tax revenue generated by stimulus the benefit-cost ratio is highly favorable, even if foreigners purchase government debt issued because of the resulting deficit. Is there *any* situation, aside from rare moments when the economy approaches true full employment, in which the society would not benefit from more fiscal stimulus?

[12] See Irons and Bivens (2010) for further discussion and references.

The most obvious way answer yes would be a situation in which interest payments necessary to service government debt have gotten so high that they impose social costs that exceed the benefit from creating new flows of demand.[13] It is important to recognize that these payments are a *transfer*, not a net social cost. Government bonds impose a liability on future generations of taxpayer, which politicians and pundits almost universally decry as the dark side of any debt-financed fiscal stimulus. But the bonds also are an asset for future generations of bondholders. If transfers are lump sum with no supply-side incentive effects and there is no social cost to redistribution, the transfers would be neutral. Fiscal stimulus when resources are under-utilized would have no cost, regardless of the size of the debt overhang. But as a practical matter, taxes will not be lump sum and the distribution effects cannot be ignored.

To assess the redistribution costs of servicing government debt we must first consider the magnitude of transfers. Interest rates on government bonds in countries that borrow in their own sovereign currency are low. In the U.S. the real interest rate measured by the yield on 5-year and 10-year inflation-protected securities averaged 1.64 and 2.06 percent, respectively, from 2003 through 2007. This period was before the primary effects of the Great Recession when interest rates were likely more representative of long-run yields. The 5- and 10-year inflation-protected yields averaged 0.56 and 1.28, respectively, from 2008 through 2011 as monetary policy responded to the economic collapse.

Consider what these figures imply about the costs of servicing U.S. debt arising from the Great Recession. This has been a historic period of weakness in the economy when deficits relative to GDP greatly exceeded the previous postwar high. It is therefore a rather extreme case study. From 2008 through 2011, the debt-to-GDP ratio increased by rough 30 percentage points.[14] Since the recovery has gained little traction as of this writing, suppose that continued stagnation raises this ratio by another 15 points over the next several years. The interest rate projections presented in the previous paragraph imply annual debt service legacy of this once-in-two-generations event of approximately

[13] These transfers are relevant only if fiscal stimulus ultimately results in the issue of bonds. Governments of countries with sovereign currencies could also create new money to cover fiscal stimulus spending. Although conventional thinking implies that this action would create transfers through an inflation tax, higher inflation would not necessarily be forthcoming, especially when economic slack is substantial. See Wray (2011), for example, for further discussion. He emphasizes that the decision to issue government bonds to drain reserves created by new government spending is a "choice," not a requirement. Even though the possibility of substantial money-financed fiscal expansion is intriguing, this paper focuses on stimulus that leads directly to higher government debt because that is the most relevant context with current institutional structures in most countries.

[14] The vast majority of this increase in debt was due to automatic stabilizers rather than discretionary fiscal stimulus.

the product of a 1.5% interest rate and a 45% rise in debt to GDP, which equals just under 0.7% of GDP. This figure is hardly "unaffordable;" it seems like a modest cost to pay for the critical support that fiscal policy provided the economy during 7 or more difficult years. Indeed, it is easy to imagine that this fiscal support could have prevented declines in the *level* of potential output by at least 0.7% in the aftermath of the Great Recession by containing negative effects on capital investment, R&D spending, and deterioration of worker skill due to unemployment. Thus, one could make a strong case that this higher debt, widely decried in political circles, *has no aggregate social cost at all* when compared with a counterfactual of some kind of balanced-budget rule for the federal government. As the economy grows over time, the debt service required by these circumstances will shrink relative to GDP. Although one hopes that it will not be necessary, there is nothing in this record to suggest that the legacy of what has happened since 2008 would make a similar intervention infeasible or even require a higher cost should it be necessary in future years.[15]

It is important to remember that this debt service is not a net social cost, it is a transfer. Some authors have raised concerns that transfers to service government debt act as a regressive tax. Since saving rates increase with income, it is likely that the distribution of government bond holders is skewed toward the wealthy. But, as discussed in Cynamon and Fazzari (2012, chapter 11, forthcoming) the wealthy also pay a high share of income taxes. If income taxes rise to cover higher debt service (a questionable assumption considering the relatively small size of the transfers discussed above), they *could* be raised on high-income earners to offset regressive transfers to bondholders. The critical word in the previous sentence is "could." If government debt service leads to higher taxes on the middle class, or to cuts social safety net programs, the effect of debt-service transfers would indeed be regressive. But this outcome is a political problem, and not a necessary result of government debt overhang.

This discussion implies that the U.S., and other sovereign-currency, developed countries, do not now have a debt overhang problem at this time, and are unlikely to develop one from the need to pursue fiscal stimulus in the face of economic slack in the foreseeable future. That said, governments cannot issue debt without bound. There is some limit on how high government debt and debt service can rise relative to the size of the economy. In the long term, government budgets should be balanced, or at least set at a level that sustains an acceptable debt-GDP ratio, *when the economy operates at full employment*. In the U.S., for example, the tax revenue base reflected in current law is

[15] Many commentators worry about higher interest rates as the legacy of high government debt. See Fazzari (1995) and Cynamon and Fazzari (2012, chapter 11, forthcoming) for a discussion about why higher government debt will not raise interest rates as long as the economy has idle resources. The fact that interest rates have plumbed historic lows, despite the large run up of debt during the Great Recession, provides empirical support for this view.

inadequate to fund the current path of health care entitlements in the long run. This problem should be addressed. But it should not be used as a reason for austerity when the economy suffers from significant slack.

We also cannot ignore the role of monetary policy together with fiscal stimulus. Modern economies need large fiscal expansion when they suffer from low employment. At these times, interest rates should be low, and new government debt will be issued with low debt-service commitments. (U.S. inflation-adjusted securities have slightly negative real yields in early 2012.) As the economy recovers, budget deficits should move toward balance, reducing the growth rate of government debt below the growth rate of the economy and leading to a decline in debt-GDP ratios. If monetary policy must tighten to prevent inflation in such circumstances, at least this tightening will occur when the government balance sheet is improving and tax revenues are growing quickly.

4. Conclusion

This paper considers three different dimensions of the economic context that many commentators argue matter for the effectiveness if fiscal policy. My conclusions are:

1. The extent of *idle resources* is the most important context for fiscal policy. Basic Keynesian theory predicts that higher government spending will raise output and employment when the economy has under-utilized labor and capital, but higher government demand crowds out other activities when resource constraints bind. Recent studies that explicitly take the idle resource context into account support this prediction. Moreover, the multiplier is large which implies that higher government spending stimulates substantial private activity, again, when the economy has idle resources.
2. An *open economy* will cause some part of fiscal stimulus to leak abroad as imports. But the effects of fiscal stimulus are large enough, even in an open economy, that the import leakage is unlikely to cause a policy action that would be deemed worthwhile in a closed economy to be assessed as undesirable in the open economy context. Furthermore, the accumulation of foreign debt, even if viewed as a social cost (which is far from obvious), is very unlikely to generate enough debt service to justify curtailing fiscal stimulus that would be viewed as desirable if it were financed domestically.
3. While government debt cannot grow without bound, relative to the size of the economy, I conclude that the *debt overhang* context does not constrain the effectiveness of fiscal policy for the practical circumstances faced in 2012 by developed countries that borrow in their own sovereign currency. Current ratios of debt to GDP leave substantial room for further fiscal expansion to address unemployment, even following the very severe Great Recession and its

aftermath. Nonetheless, tax and spending policies should approach balance when the economy approaches full employment.

For developed countries like the U.S., the U.K., Japan, Australia, Canada, and others, I argue that the primary context for fiscal policy should be the state of the economy. Current policy debates, in my view, reflect too much fear about the foreign debt or debt overhang contexts. Our evidence to date, even after the most severe crisis in almost 8 decades, and the highest government deficits in 70 years, shows that fiscal stimulus can be an effective tool to address the social costs of under-employed resources.

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